

Tetanus (*Clostridium tetani*, "Lockjaw")

Tetanus is a disease caused by infection of the bacterium *Clostridium tetani*. When these bacteria enter the body, they produce a toxin that causes painful muscle contractions. Another name for tetanus is "lockjaw". It often causes a person's neck and jaw muscles to lock, making it hard to open the mouth or swallow. Tetanus is prevented through vaccination.

Transmission

Tetanus bacteria are often present in soil and are spread from **environment to person**. Tetanus bacteria are more likely to infect certain breaks in the skin, including wounds, bug bites, and burns. Tetanus bacteria may also be introduced through an injection or surgical site if sanitary practices are not followed.

Symptoms

One of the most common signs of infection is **tightening of the jaw muscles**. Tetanus infection can lead to serious health problems, including inability to open the mouth and **trouble swallowing or breathing**. Other symptoms include painful **muscle spasms, cramps, headaches, fever**, and changes to the heart rate.

Diagnosis

Doctors can diagnose tetanus by asking about recent history of cuts, scrapes, punctures, trauma, and examining someone for signs and symptoms. Diagnosis will also consider history of vaccination and whether a person has proper immune protection against tetanus. There are no hospital lab tests that can effectively confirm or exclude tetanus.

Treatment

Tetanus is a medical emergency that often requires:

- Evaluation and care in the hospital
- Immediate treatment with medicine called human tetanus immune globulin (TIG)
- Aggressive wound care
- Drugs to control muscle spasms
- Antibiotics
- Tetanus vaccination
- Mechanical ventilation (use of a machine to help someone breathe)

Prevention

Vaccination and good wound care are important to help prevent tetanus infection. Doctors can also use a medicine to help prevent tetanus when someone is seriously hurt and isn't up to date with tetanus vaccination.

Being up to date with tetanus vaccination is the best tool to prevent tetanus. Protection from vaccines, as well as a prior infection, do not last a lifetime. This means people who had tetanus or got vaccinated before still need to get vaccinated regularly to keep a high level of protection against this serious disease. CDC recommends tetanus vaccines for people of all ages, with booster shots throughout life.

Immediate and good wound care can also help prevent infection. Apply first aid to even minor, non-infected wounds like blisters, scrapes, or any break in the skin. Wash hands often with soap and water or use an alcohol-based hand rub if washing is not possible. Consult your doctor if you have concerns and need further advice.

Doctors may use a type of medicine called human tetanus immune globulin (TIG) for someone who has an unclean wound and is not up to date with their tetanus vaccination. These medicines provide immediate protection from the type of bacteria that causes tetanus, but it is not long lasting.

Unlike other vaccinations, high vaccination rates in a community does not protect an individual against tetanus. A person must be vaccinated against tetanus themselves to gain any protection from vaccination.

Exclusion Guidance

Tetanus does not spread from person to person, so exclusion of infected persons will not reduce risk of transmission. Those with tetanus are likely to be tremendously sick and will not be able to attend work or school while infected.

For additional information about tetanus, contact the North Dakota Department of Health and Human Services, Public Health Division, at 800.427.2180.

Suspected cases should be reported immediately to the North Dakota Department of Health and Human Services.

Resources:

1. Centers for Disease Control and Prevention. (2022, August 29). *CDC Tetanus*. Center for Disease Control and Prevention. Retrieved May 4, 2023, from <https://www.cdc.gov/tetanus/>.
2. Kimberlin, D. W., Barnett, E. D., Lynfield, R., Sawyer, M. H. (2021) Red Book: 2021-2024 Report of the Committee on Infectious Diseases. 32nd ed. American Academy of Pediatrics. [Management and Prevention of Infectious Diseases; Tetanus (Lockjaw)] [pages 750-755].

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